

New Tools Detect Hidden Hunger In Crops

NORCROSS, Ga. — When the nutrient deficiency symptoms appear in growing crops, we become concerned that yields and profits will suffer. Usually that is a safe assumption, and we know that the deficiency must be corrected and optimize profits.

Most farmers and crop advisers know the important deficiency symptoms in their crops and will be able to identify problems once they are visible. Unfortunately, considerable yield potential is already lost when visible symptoms appear.

Some of the new tools of site-specific farming may offer opportunities to better detect and treat hidden hunger in growing crops.

All essential plant nutrients are required in at least a threshold amount throughout the life of the plant in order to support normal growth and development. If any nutrient falls short of its respective critical level at

any time during the growing season, there will likely be a reduction in growth and potential yield. Even if the nutrient supply is replenished, there may have already been irreversible damage done. The critical levels for each nutrient, and the effect of deficiency, vary with stage of growth.

Deficiency symptoms are usually physiological reactions to the insufficient supply of the nutrient. They are expressed as reduced growth, abnormal color, or death of tissue. Sometimes the effect can be overcome with the addition of supplemental fertilizers, but often it is too late for corrective action when the symptoms appear.

Hidden hunger, on the other hand, is less severe and does not produce the visible symptoms. Thus, it is also more difficult to detect. Analysis of plant tissue samples or in-field tissue quick tests can help identify these shortages. New electronic

tools, such as the chlorophyll meter, can be used to help detect a nutrient deficiency that is developing. Researchers are experimenting with in-field measurement of light reflectance with remote-sensing scanners to detect variability that may be due to hidden nutrient deficiencies.

Plotting such measurements with global positioning system (GPS) tools and logging the data into a geographic identification system (GIS) database permit farmers and their advisers to analyze the spatial variability of the relative measurements and detect areas of the field where unseen nutrient deficiencies are possible. Then plant analysis can be used to accurately determine whether there is a deficiency developing, so that corrective action can be taken before the problem reaches the point of severely impacting yield.

As yield levels continue to increase and management is

intensified, the effects of stress factors will likely be more common, and potential for hidden hunger will increase. Farms and their advisers will benefit from

using the new tools of GPS, GIS, electronic monitoring instruments, and remote sensing to help detect these developing problems and make management decisions for corrective action.

Top Gun Conference Planned for Mercer

MERCER (Mercer Co.) — The Pennsylvania Master Corn Growers and Penn State Extension will be sponsoring a conference on key corn production issues for western Pennsylvania corn producers on Dec. 18 here at the Mercer County Cooperative Extension office.

The conference will feature some key topics specifically targeted at improving crop production in the western region. The program will feature Tom Murphy from Lycoming County Extension, who will review how producers in his area have initiated and benefited from a grain marketing club.

The program will also feature presentations on how to produce and market quality grain, including the potential for the new high oil specialty corns on the market.

The afternoon presentations will focus on how to manage machinery more

effectively. These will include a session on how to extend the effective life of your corn planter.

Another presentation in the afternoon will address the process of deciding whether to buy new or used equipment and factors that you need to consider. The conference also will review the potential of custom farming arrangements that have allowed some area producers to invest in newer equipment while providing a valuable service to the dairy industry in the area.

The program will start at 8:30 a.m. and continue until 3:30 p.m. Area ag suppliers will be on hand with exhibits. Lunch will be provided on site.

Registration for the program is \$7. For registration information, contact Ryan Hockensmith at the Lawrence County extension office at (724) 654-8370.

Conference Showcases Future Of Nation's Top Crop

ST. LOUIS, Mo. — The corn industry got a glimpse of its future as hundreds of experts from around the world shared research and expertise at the Corn Utilization and Technology Conference (CUTC) here.

Hosted by the National Corn Growers Association (NCGA) and the Corn Refiners Association (CRA), the CUTC brought together corn growers, corn refiners, and researchers to explore new uses for corn, share technological know-how, and familiarize themselves with new or improved equipment, innovative ideas, and techniques for corn processing.

Past conferences have yielded new technologies in amino and organic acid production from corn starch, major cost reductions and improved productivity and quality in corn refining and processing; and the first genetic transformation of the corn plant. Nearly 600 people attended this year's CUTC, including foreign trade teams and visitors from Japan, Korea, Egypt, Mexico, Brazil, Venezuela, Peru, Chile, the Dominican Republic, and Columbia.

"As a corn grower, I want to see even greater uses and value for corn," said Lee Schafer, NCGA Corn Board member and a corn grower from Brighton, Iowa. "CUTC is not just pie-in-the-sky predictions of our future. It's the corn industry's efforts to ensure the tools we need are commercially viable and available."

CRA President Charles F. Conner agreed. "Corn wet milling technologies presented at past conferences added more than \$3.5 billion to the value of 1.3 billion bushels of corn last year alone," Conner said. "Technologies presented at this year's conference promise to deliver even greater efficiencies, increased production, and new product ideas that will benefit the entire corn industry."

The Corn Utilization and Technology Conference merges NCGA's popular Corn Utilization Conference and CRA's former Technology Conference into a single powerhouse

meeting of the best minds in the corn industry. CUTC will be held every other year.

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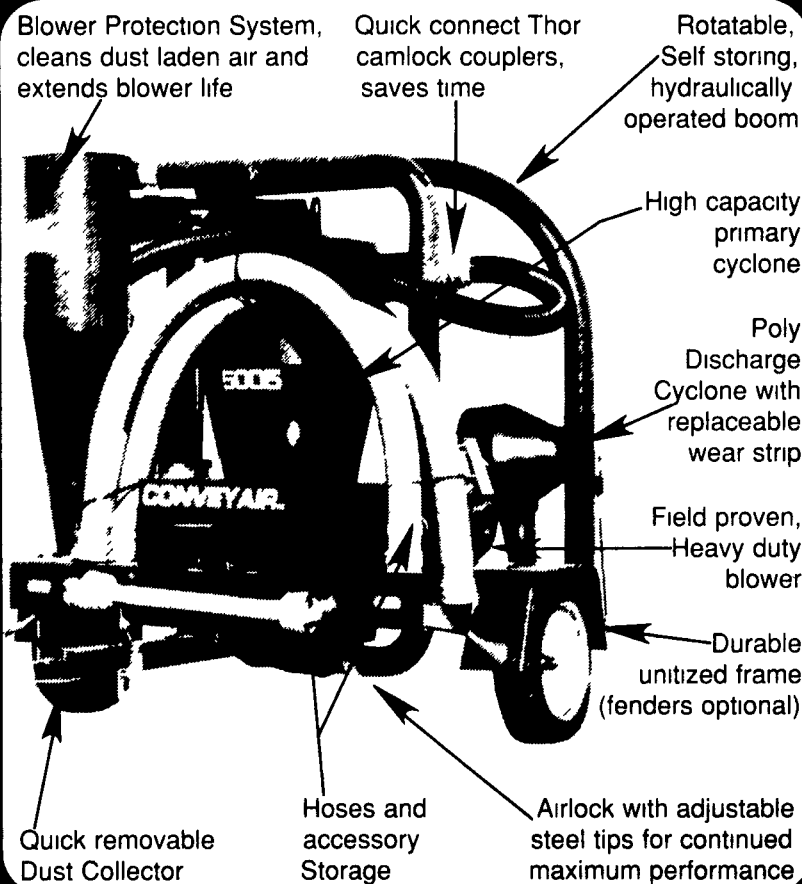


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